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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/798,381	03/12/2004	Akira Hashimoto	033318-008	5646

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EXAMINER

MULLINS, BURTON S

ART UNIT PAPER NUMBER

2834

DATE MAILED: 03/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/798,381

Applicant(s)

HASHIMOTO ET AL.

Examiner

Burton S. Mullins

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 14 is/are rejected.
- 7) ☒ Claim(s) 9-13 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 12 March 2004 has been considered by the examiner.

Claim Rejections - 35 USC § 112

3. Claims 1-2 and 5-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 1, the syntax of recitation "located on both sides" (last line) is vague. This will be assumed to mean that adjacent first magnetic teeth lie on each side of a second magnetic tooth, or that --each of the second magnetic teeth [join] two adjacent first magnetic teeth located on both sides thereof--.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-3 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Yasuhara et al. (JP 09-9534). Yasuhara teaches an armature in a rotating electrical machine comprising: a plurality of first magnetic teeth 37 arranged side by side along a circumferential direction of the rotating electric machine (Fig. 16), each of the first magnetic teeth 37 having a yoke portion 37a extending along the circumferential direction and a tooth portion 37b extending from a central part of the yoke portion inward along a radial direction of the rotating electric machine (Fig. 16); and a plurality of second magnetic teeth 38, each located between the tooth portions of each successive pair of adjacent first magnetic teeth 37, and each of the second magnetic teeth 38 joining two adjacent first magnetic teeth 37 located on both sides (Fig. 16).

Regarding claims 2-3, each of the first magnetic teeth 37 has a pair of joint portions (not numbered) formed along inner edges of both end surfaces of the yoke portion (Fig. 16), the joint portions, i.e., the interface between teeth 37, formed at the facing end surfaces of the yoke portions of each successive pair of adjacent first magnetic teeth together forming a connecting part (Fig. 16); wherein each of the second magnetic teeth extends along the radial direction with a mating part (not numbered) formed at an outer end surface of each second magnetic tooth (Fig. 16); and wherein the second magnetic teeth are joined to the first magnetic teeth by fitting the connecting parts to the respective mating parts (Fig. 16).

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Regarding claim 7, coils are individually wound around each tooth of first and second tooth portions (Fig.9).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 4-6 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yasuhara in view of Nishiyama (US 6,369,480). Yasuhara does not teach that either one of the groups of the connecting parts and of the mating parts is formed into a groovelike shape while the other is formed into a protruding shape which extends along part of the entire axial length of the first and second magnetic teeth (claim 4), or a projecting portion extending along the circumferential direction is formed at one end of the yoke portion of each first magnetic tooth while a recessed portion is formed at the other end, and the projecting portion of each first magnetic tooth is fitted into the recessed portion of the adjacent first magnetic tooth to prevent radial displacement of the adjacent first magnetic teeth.(claim 5), or that the successive first magnetic teeth are bendably joined in a chainlike form by flexible joints disposed at both ends of the yoke portion of each first magnetic tooth (claim 6), or that a projecting portion extending along the circumferential direction is formed at one end of the yoke portion of each first magnetic tooth while a recessed portion is formed at the other end, and the projecting portion of

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each first magnetic tooth is fitted into the recessed portion of the adjacent first magnetic tooth to prevent radial displacement of the adjacent first magnetic teeth (claim 14).

Regarding claims 4-5 and 14, Nishiyama teaches mating parts each comprising a groovelike shape (recesses) 10b (Fig.2) while mating parts formed into a protruding/projecting shape (bumps) 10a which extend along part of the entire axial length of the first and second magnetic teeth to facilitate easy assembly of the stator (c.4, lines 41-66). The construction would furthermore inherently prevent radial displacement of the teeth.

Regarding claim 6, Nishiyama teaches another embodiment in which plural teeth 75 are bendably joined in a chainlike form by flexible joints (folding portion) 81 disposed at both ends of the yoke portion of each first magnetic tooth (Fig.8, c.9, lines 43-52) to facilitate easy assembly of the stator.

It would have been obvious to modify Yasuhara and provide either connecting and mating parts forming grooves and recesses or first magnetic teeth bendably joined in a chainlike form by flexible joints per Nishiyama to facilitate easy assembly of the stator.

8. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yasuhara in view of Mueller (US 5,909,072). Yasuhara does not teach that one group of teeth comprise main teeth and the other group auxiliary teeth on which no coils are wound.

Muller teaches a DC motor comprising main poles 22-24/22'-24' and auxiliary poles 36 on which no coils are wound (Fig.2), so that eddy currents are minimized or for supporting position sensors (c.2, lines 57-c.3, line 14).

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It would have been obvious to modify Yasuhara and provide an auxiliary group of teeth with no coils wound thereon per Mueller since this would have been desirable to minimize eddy currents or provide a support for position sensors.

Allowable Subject Matter

9. Claims 9-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 9, the prior art, in particular Yasuhara, does not teach that each pair of adjacent joint portions forming the connecting part has a protruding shape that sticks out in an extending direction of the tooth portion while the mating part has a dovetail groovelike shape.

Conclusion

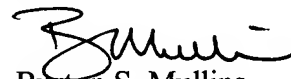
10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Burton S. Mullins whose telephone number is 571-272-2029.

The examiner can normally be reached on Monday-Friday, 9 am to 5 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on 571-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Burton S. Mullins
Primary Examiner
Art Unit 2834

bsm

11 March 2005